

4.Special comments

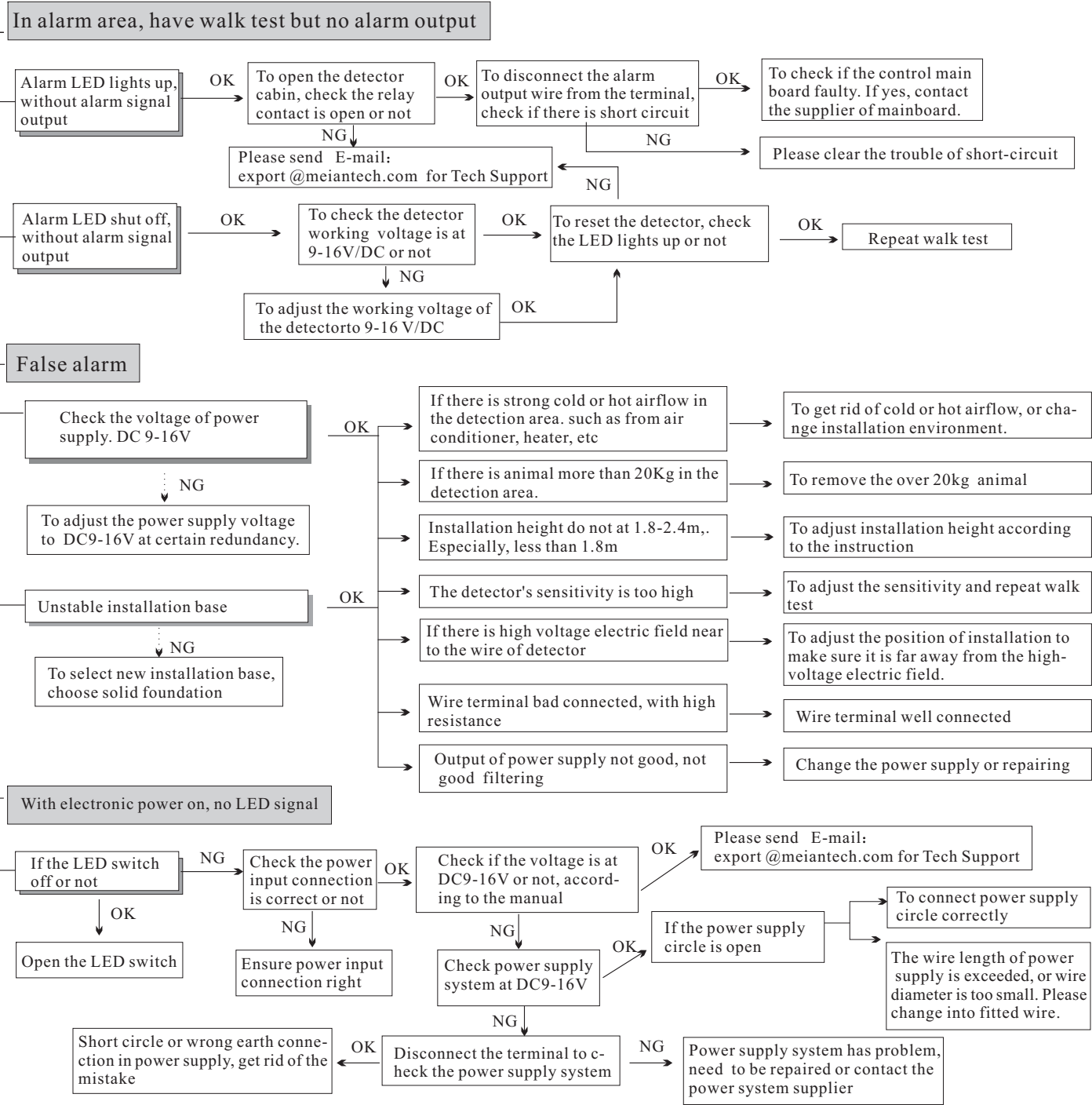
Even the most sophisticated detcetors can sometimes be defeated or may fail to warn due to :DC power failure/improper connection, malicious masking of the lens,tampering with the optical system, decreased sensitivity in ambient temperatures near that of the human body and unexpected failure of a component part.The above list includes the most common reasons for failure recommended that the detector and the entire alarm system be checked weekly, to ensure proper performance.An alarm system should not be regarded as a substitute for insurance. Home & property owners or renters shoulbde prudent enough to continue insuring their lives & property, even though they are protected by an alarm system.

This device has been tested and found to comply with the limits for a Class B digitaldevice, pursuant harmful interference in residential installations .This equipment generates,uses and can radiate radio frequency energy and ,if not installed and used in accordance with the ins-tructions ,may cause harmful in-terference to radio and t-elevision reception. However, there is no guarantee that interference will not occur in a particular installation .If this device does cause such interference , which can be ver-fied by turning the device off and on ,the user is encouraged to eliminate the interference by one or more of the followingmeasures:

- Increase the distance between the device and the receiver.
- Connect the device to an outlet on a circuit different from the one that supplies power to the receiver.
- Consult the dealer or an experienced radio/TV technician.

**⚠ WARNING!** Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user s authority to operate the equipment.

5、Solution of usual problem



Installation Guide of FT-85  
PIR & MW Intelligent Intrusion Detector

1. Introduction

FT-85 is virtually the best outdoor/indoor motion detector ever presented, for industrial, commercial and residential security. FT-85 has a m as sive aesthetic design and combines the technologies of passive infrared and Microwave as well It is waterproof and all-weather resistant. FT-85 also al-erts in any attempt to damage disable its operation . Ft-85 combines a variety of detection techniques that enable it to work in the most difficult environmental conditions and where high security is required while maintaining unprecedented immunity to false alarms. The two synchronized PIR sensors produce a three-dimensional thermal imaging of the protected area. Combining the fourth dimension ad microwave scanning contributes to an amazing detection capacity and at the same time it also increases the reliability and immunity to false alarms. Using this technique allows high sensitivity level adjustment in both detection technologies without the need of pulse count. In addition to an unprecedented amazing and reliable detection skill, FT-85 is equipped with unique protection mechanisms against any attempt to damage or to disable its operation. These following protection mechanisms always work-weather the alarm system is Armed or Disarmed:

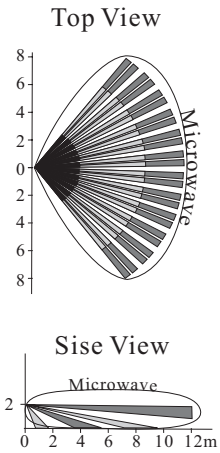
- 1.Forntal Anti-masking by a continuous active infrared scan, against masking the near field-of-view of the detector (Detects even transparent objects such as clear glass, plastic bags or transparent spray of any king)
2. Imposes OR mode in distress. If from any reason, the PIR detection channel is neutralized(for example, the detector front was masked) the Micro-wave detection channel will guard the protected area.
- 3.Anti-case-shifting, by inertial switch that alerts if someone shifts, moves or turns the detector.

2.Specifications

Models:  
FT-85;  
FT-85DMF;  
FT-85DMT  
Detection Range:12m  
Input Voltage:9 to 16 VDC  
Current Drain:About 65mA @ 12 VDC

PIR Section:Lens Date  
NO.of Curtain Beams:  
(11+11+9)\*2=62 (Typical)  
Max.Coverage: 12\*12m /90°  
Tripping Indication:  
3 colour lights for about 30 seconds

Alarm ,Mask and Tamper  
Alarm Output:  
Solid-state relay, N.C & N.O up to 100mA/30V,-30Ω  
Tamper Contacts: N.C , 50mA resistive /30 VDC  
Mask Output: N.C up to 100mA/30V,-30Ω



Mounting:  
Surface or corner,at the height of 1.8 to 2.4 m  
Note: Base allows single-sided corner mount at 45 to wall

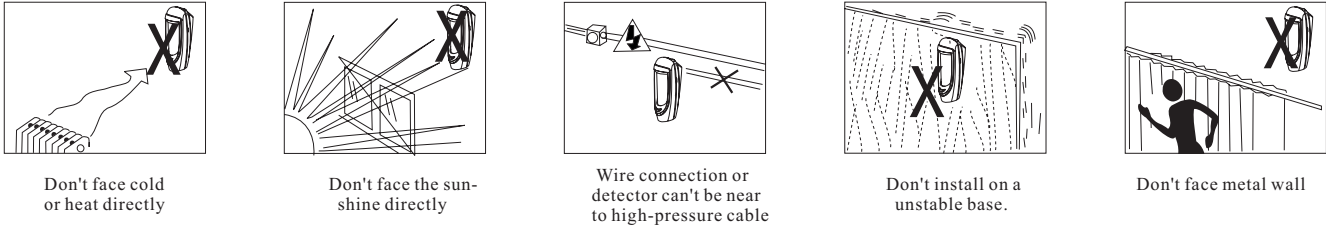
Accessories:  
BR-1:Surface mounted swivel bracket, adjustable 30° down and 45° left or right.

Environment:  
Operating Temperature: -10° C to 50° C (14° F to 122° F )  
Storage Temperature : -20° C to 60° C (-4° F to 40° F )  
Anti white light : >9000 LUX  
Physical  
Size(H\*W\*D):176\*83\*66 m m

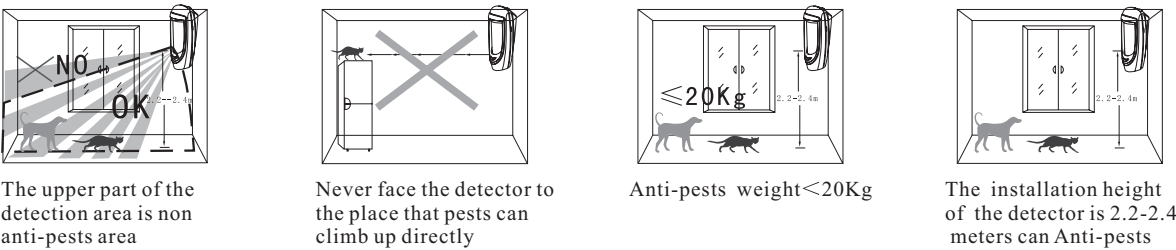
This device is coherent to Europe parliament direct 1999/5/EC necessary items and rules, and also coherent to the main spirits of radio and telecom terminal equipments on March 9<sup>th</sup>. 1999. The device also reaches the Canadian standard RSS-210. It can be used indoor and outdoor, which can reach its maximum protection and avoidance of above interference.

3.Installation

3.1 General Guidelines

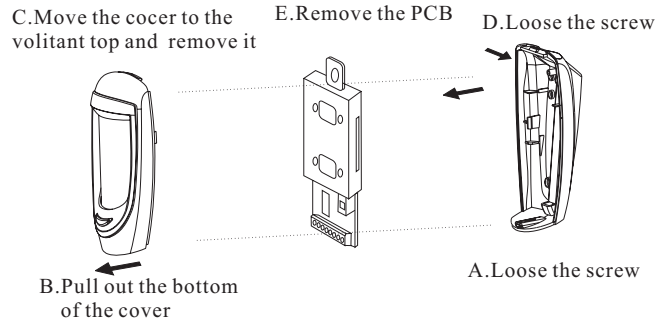


3.2Anti-pests installation



3.3 Illustrated Installation Procedure

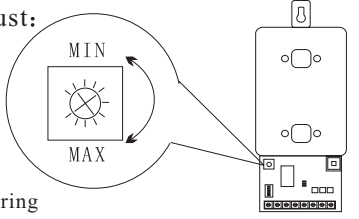
3.3.1、Disassemble unit



3.4、MW sensitivity adjust:

MW sensitivity adjust:

Turn MW scale regulating wheel to the anticlockwise direction and adjust the MW detection scale to the Min, During walking test adjust the wheel to clockwise direction and gradually increase the MW detecting scale till the whole protection area is covered.

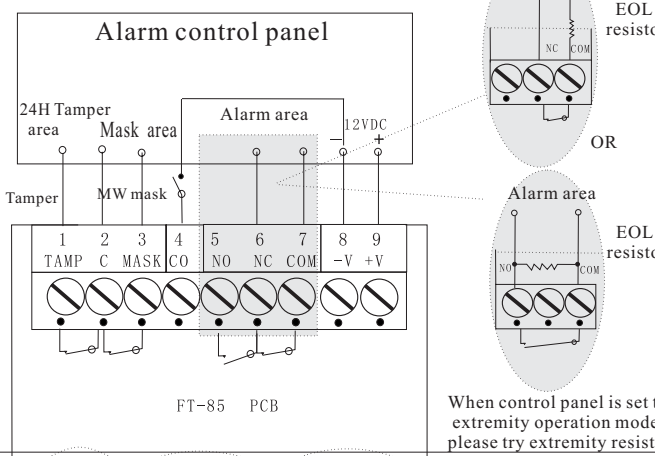


Notice: Adjustment of MW detection scale should meet the size of protected room.

3.6、Product operates its relays and LED indicators according to the detection nature as following:

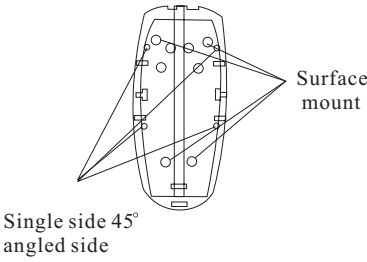
TYPE OF DETECTION		LED INDICATORS	RELAY STATUS
Alarm-true motion detection		Red +Green blinking together	ALARM relay will activate for 2 seconds
PIR detection		Green	NO relay will operate
MW detection	OR mode	Red	NO relay will operate(During masking only!!!)
	AND mode	Red + Green blinking together (During masking only!!!)	ALARM relay will activate for 2 seconds
Anti-masking detection	Yellow Blinking		If masking exists for more than 2 minutes, the green LED will glow constantly ,and the MASK relay will operate for at least 2 seconds and all time the masking exists
Anti-case-shifting detection			MASK relay will activate for 2 seconds

3.7、.Extremity connection



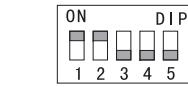
3.3.2、Mount base

1.8-2.4m (6-8ft) above ground



- A. Mark the drilling points and drilling the wall
- B. Route the wires into the base VIA the rear channel
- C. Insert two dowels and attach the base to the wall with two screws
- D. Insert the bottom edge of the large PCB under this TAB & Press the top edge in

3.5、DIP Switch Adjustment:



NO	Function	OFF	ON
1	LEDs	OFF	ON
2	PIR Sensitivity	LOW	HIGH
3	Anti-masking& Anti-case-shifting Sensitivity	LOW	HIGH
4	Detection Combination Type	Microwave "AND" PIR	Microwave AND PIR "OR" Just Microwave (During masking only!!!)
5	Anti-case-shifting Enabling	ENABLED	DISABLED

3.8、Wiring terminal specifications

Terminals 8+9

Indicated on the circuit as: - +

These are the 12V DC power supply inputs

Terminals 5+6+7

Indicated on the circuit as: ALARM (C/N.C./N.O)

Represent the contacts of the (Alarm Relay)

C+N.C.=Normally Closed. C+N.O=Normally Opened.

Upon any human movement detection, the relay's contacts are Opened for two seconds.

Terminals 2+3

Indicated on the circuit as: (MASK)

Represent the contacts of the (Masking Relay) which normally are in closed state(N.C.). Closed state(N.C.). If an object blocks(masks) the near field-of-view of the detector for more than 2 minutes, the green LED will glow constantly, and the (MASK) relay will operate for at least 2 seconds and all time the masking exists

Terminals 1+2

Indicated on the circuit as (TAMP)

Represent the contacts of the built-in TAMPER switch, which are normally in closed state(N.C.) The contacts will open, upon the detector's case is opened.

Terminal 4

Indicated on the circuit as (CO).

This terminal to be used if you wish to get a report from the detector's memory, whether it has detected human movement during the armed period. This terminal should get indication from the alarm system's control panel, whether it is in Armed or Disarmed state.

-If 0V received, the detector (understands) <

-If 12V or no voltage at all received, the detector (understands)

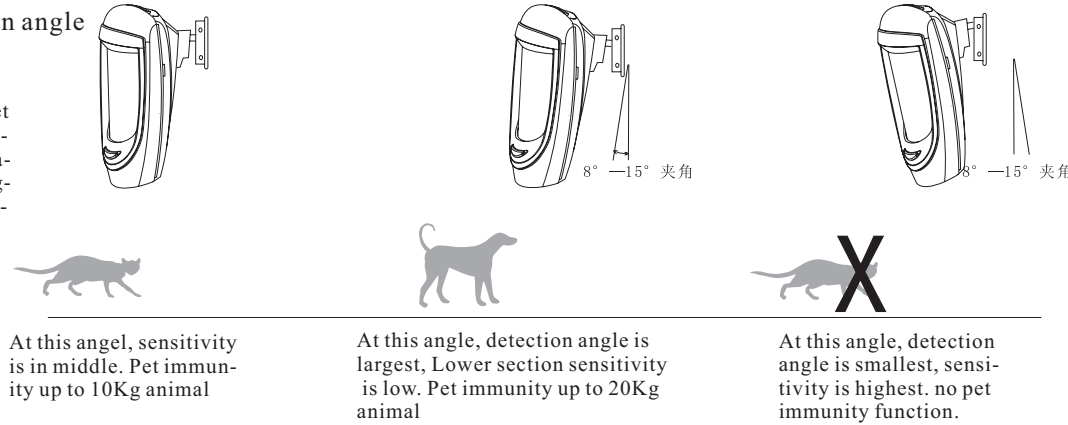
That the alarm system is Disarmed.

How to draw and display the detector's memory?

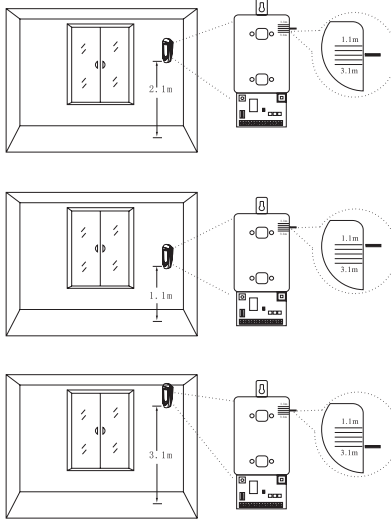
If: the detector has alerted during the (armed) period, Than: upon switching the alarm system from (Armed) to (Disarmed) mode, the Red LED will be activated for 30 minutes.

3.9、Setting of detection angle

When multi-function bracket is used (optional), installation should refer to the right diagram, adjust installation angle, in order to get needed detection scale and function



3.10、Adjust the PCB:



When detector is installed in different environment and places, you can solve the problems you meet through adjustment of the position of PCB, eg: when detector installed on 1.1 m, you need to adjust the marks on PCB to 1.1 m position. And also as you install the detector to 3.1 m, adjust the PCB to 3.1 m, usually it is 2.1m, ie, at the middle.

3.11、Preparing the Anti-Masking channel for work

In order to enable the masking detection to operate properly, it is Necessary to allow the detector study and analyze automatically the environmental conditions of its protected area.

The study procedure to be performed in three cases:

1. Upon connecting the power supply to the detector.

2. Upon the position of DIP switch number-3 (Masking detection Sensitivity) is changed.

3. Upon relocation of the internal unit of the detector.

The study procedure in the first & third case:

-Close immediately the detector's case (within 15 seconds Maximum).

-Keep away (at least 0.5 meter) from its front, until the study Procedure finished, about 30 seconds.

-As an indication for the study procedure, the Red+Yellow LEDs will blink rapidly once the procedure begins and ends.

The study procedure in the second case:

-Change the position of DIP switch number-3 for about one second, and switch it back to the original place.

-Close immediately the detector's case (within 15 seconds maximum).

-Keep away (at least 0.5 meter) from its front, until the study procedure finished, about 30 seconds.

-As an indication for the study procedure, the Red+Yellow LEDs will blink rapidly once the procedure begins and ends.

3.12、Perform motion test to the detection area:

1. Start the test at least 2 minutes after power supply
2. Crossing to any direction of the detection area, your walking with 0.75m/s will cause the Red& Yellow LED indicator to light for 2-3 seconds (refer to the right diagram)
3. Perform motion test from contrary directions in order to confirm the boundary of two sides. Make confirmed that detection center pointing to the center of protected area.
4. Away from the detector 3 to 6 m, raise slowly your arm and reach into the detection zone, mark the lower limit of PIR detection. Do the same step to confirm the upper limit.
5. the center of detection zone should not uphill incline. To obtain a good detection range, please adjust the vertical detection range, ensure the detector is in a correct position.
6. After MW sensitivity or detection angle are adjusted, walking test must be performed according to the above steps.

The test procedure for masking detection (Anti-masking):

In a distance of about 10 cm from the detector's front, place a white paper (or any other object).

The necessary reaction of the detector:

The Yellow LED will blink immediately.

After 2 minutes the (asking Relay) will activate.

All time when an object blocks(masks) the near field-of-view of the detector, the masking relay and the Yellow LED will activate

The test procedure for Case-shifting detection:

Shake the detector.

If it fixed to a wall, knock on the detector's case by a screw driver.

The necessary reaction of the detector:

The (Masking Relay) will activate for 2 second.

The Green LED will activate, shortly, upon every knocking.



Important mention: Motion test shall be performed at least one time each week in order to guarantee that each detector can keep excellent function.

